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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/566,178	01/27/2006	Katsutoshi Morinaka	Q76836	5736
23373 7590 07/27/2007 SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037				
			EXAMINER NAGUBANDI, LALITHA	
			ART UNIT 1621	PAPER NUMBER
			MAIL DATE 07/27/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/566,178	<b>Applicant(s)</b> MORINAKA ET AL.	
	<b>Examiner</b> Lalitha Nagubandi	<b>Art Unit</b> 1621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 27 January 2006.
- 2a) ☐ This action is **FINAL**.      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>1/27/2006</u> . | 6) <input type="checkbox"/> Other: _____  |

***Detailed Office Action***

***Status of the Claims***

Claims 1-11 are pending in this application. Claims 1-11 are considered for examination in this office action.

***Priority***

This application is a 371 of PCT/JP04/11019 dated 07/27/2004, which claims benefit of 60/493,455 dated 08/08/2003.

***Specification***

The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicants' cooperation is requested in correcting any errors of which applicant may become aware of in the specification.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

Claims 1-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The phrase ' high purity ' has been used which renders indefinite, examiner is not clear what applicant is trying to claim: does the product obtained is free from chlorine content or what exactly

Art Unit: 1621

applicant wants to claim. It is suggested that the claims are amended appropriately and made clear for the record.

Further, Claim 9 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 9, line 3 the word 'amine' is used for imidazole compounds. Examiner is not clear if the applicant intended to use the word amine for imidazoles. It is suggested that claim 9 is amended appropriately.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Art Unit: 1621

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102 (e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Misu et al ( US Pat. No. 6,245,935 B1) and further in view of JP 11228523.

Applicants claim a process for preparing a high purity (meth)acryloyloxyalkyl isocyanate, which comprises of subjecting hydrolysable chlorine containing (meth)acryloyloxyalkyl isocyanate to mixing treatment with an epoxy compound and an amine or imidazole at 110 to 160°C to prepare a mixture. Further, the process comprises distillation to isolate a (meth)acryloyloxyalkyl isocyanate. The mixing treatment is carried out by adding a polymerization inhibitor, the Phenothiazine.

#### **Determination of the scope and content of prior art**

Art Unit: 1621

Misu et al teach a process for producing an isocyanatoalkyl (meth)acrylate free of hydrolysable chloride, comprising an amine and/or imidazole and an epoxy group containing compound. Further, Misu teaches purification by distillation.

JP11228523 teaches (see abstract) the above process. The process also teaches the addition of phenothiazine as a polymerization inhibitor.

#### **Ascertainment of the difference between the prior art and claims**

The difference between the prior art disclosed and the instant claims is that Misu et al teach the process (see examples, col. 7 lines 40-65) of purification in detail. However, Misu is silent about the use of Phenothiazine, the polymerization inhibitor.

The JP11228523 teaches the complete process including the addition of the polymerization inhibitor.

Both the processes do not teach the instant claimed process temperatures, However, the prior art references teach temperatures at reduced pressures.

#### **Finding of prima facie obviousness-rationale and motivation**

It would have been obvious to one having ordinary skill in the art to have used the polymerization inhibitor in Misu's process with a reasonable expectation of success.

The examiner contends that the variation in the temperatures depends on the pressures used during the process.

Accordingly, one of ordinary skill in the art would be motivated to prepare the instant products by modifying the process parameters, using routine practices of optimization and cost reduction practices, requiring no inordinate degree of experimentation.

Therefore the subject matter as a whole would have been obvious to one of ordinary skill in the art of process chemistry and one would have been motivated to combine and modify the teachings cited above at the time of invention and obtain reasonable expectation of success.

### ***Conclusion***

No claims are allowed

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lalitha Nagubandi whose telephone number is 571 272 7996.

The examiner can normally be reached on 6.30am to 3.30pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eyler, Yvonne can be reached on 571 272 0871. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1621

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Lalitha Nagubandi  
Patent Examiner  
Technology Center 1600

July 19<sup>th</sup>, 2007.



Samuel A Barts  
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